

REMARKS

The Examiner's most recent Final Office Action has been thoroughly considered. By way of the remarks herein, Applicants believe their application, including their newly inserted claims by way of this Preliminary Amendment, to be in condition for allowance.

In the Final Office Action of April 8th, 2003, Examiner Dang rejected independent Claim 16, and dependent Claims 17 and 19, under 35 U.S.C. § 102(b), as being anticipated by Yamahata, Japanese Patent 08-203435. Moreover, the Examiner has rejected dependent Claim 18 under 35 U.S.C. § 103, as being unpatentable over Yamahata, further in view of Costas et al., U.S. Patent Number 6,137,125 and dependent Claim 20 under 35 U.S.C. § 103, as being unpatentable over Yamahata in view of Kasuya, Japanese Patent 08-017798.

I. Rejection of Claims 16, 17 and 19 Under 35 U.S.C. § 102(b)

Examiner Dang has rejected independent Claim 16, and dependent Claims 17 and 19, as being anticipated by Yamahata, Japanese Patent 08-203435. By way of this response, Applicants respectfully traverse the Examiner's anticipation rejection with respect to the art of record, including the Yamahata reference. Yamahata discloses a method of manufacturing a heterojunction bipolar transistor. The method of Yamhata includes spreading benzocyclobutene ("BCB") on the surface of a semiconductor device through spin coating and curing it to harden the BCB, thereby forming a passivation film 10. Passivation film 10 is apparently intended to protect the semiconductor device surface.

Applicants' advance that the Yamahata reference fails to teach or suggest the claimed invention. Applicants' Claim 16 recites the step of "forming a conductive post overlying the semiconductor region...." Applicants contend that the Yamahata reference neither teaches nor discloses forming a conductive

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post. Applicants are willing to provide an affidavit under 37 C.F.R. § 1.132 making a sworn proclamation that the Yamahata reference fails to teach, disclose or suggest forming a conductive post as recited in their claimed invention if the Examiner believes such an affirmation would advance the prosecution of the pending claims.

Applicants contend that the Yamahata reference shows the apparent formation and curing of a passivation film (10) onto base, emitter and collector electrodes (7, 8 and 9). A silicon oxide layer (11) and a photoresist layer (12) are apparently formed, respectively, over the passivation film (10) in the Yamahata reference to support the formation of a hole (14). Thereafter, pad wiring (15) is formed through the hole (14) to access the emitter electrode (8), as shown for example, in FIG. 11 of the Yamahata reference.

Applicants advance that the Yamahata reference neither discloses nor suggest the formation of a conductive post. Applicants submit that a formed conductive post, as recited in Claim 16, is neither anticipated nor made apparent by the structure of the Yamahata reference, including pad wiring (15) formed after a hole (14) is formed in the passivation layer. In one merely exemplary embodiment of the present invention, Applicants teach forming a passivation layer 340 over formed conductive posts 320 and 330. As stated hereinabove, Applicants' Claim 16 recites the step of "forming a conductive post overlying ... a structure ...[and] encapsulating the structure...." Consequently, Applicants advance that Claim 1 defines novel and non-obvious matter.

Applicants further submit that dependent Claims 17 and 19 are also not anticipated by the art of record. These dependent claims depend from independent Claim 16, which is neither taught nor suggested by the Yamahata reference, as stated hereinabove. Consequently, in view of the above remarks, Applicants submit that dependent Claims 17 and 19 also define novel and non-obvious matter.

II. Rejection of Claim 18 Under 35 U.S.C. § 103

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Examiner Dang has rejected dependent Claim 18 as being unpatentable over Yamahata, Japanese Patent 08-203435 in view of Costas et al., U.S. Patent Number 6,137,125. Applicants respectfully traverse the Examiner's obviousness rejection with respect to the art of record, including the Yamahata and Costas et al. references. Yamahata discloses a method of manufacturing a heterojunction bipolar transistor, as explained hereinabove. Costas et al. disclose a two-layer hermetic coating method for encapsulating GaAs monolithic microwave integrated circuits ("MMIC"). The Costas et al. reference discloses the use of benzocyclobutene ("BCB") to capacitively decouple the MMIC from a carrier substrate. As stated by Examiner Dang, Costas et al. further teaches curing BCB in a nitrogen atmosphere.

Applicants' submit that the Examiner's proposed combination fails to teach or suggest the claimed invention. More particularly, the formation of pad wiring through a hole to access an electrode of the Yamahata reference, when combined with the two-layer hermetic coating method for encapsulating GaAs MMIC of Costas et al., neither discloses nor suggests the step of "forming a conductive post overlying the semiconductor region," as recited in independent Claim 16. Consequently, the Yamahata and Costas et al. references, when taken individually or in combination, fail to teach and/or suggest the elements of dependent Claim 18. As noted hereinabove, Applicants are willing to provide an affidavit under 37 C.F.R. § 1.132 if the Examiner believes such an affirmation would advance the prosecution of the pending claims.

III. Rejection of Claim 20 Under 35 U.S.C. § 103

Examiner Dang has rejected dependent Claim 18 as being unpatentable over Yamahata, Japanese Patent 08-203435 in view of Kasuya, Japanese Patent 08-017798. Applicants respectfully traverse the Examiner's obviousness rejection with respect to the art of record, including the Yamahata and Kasuya references. Yamahata discloses a method of manufacturing a heterojunction

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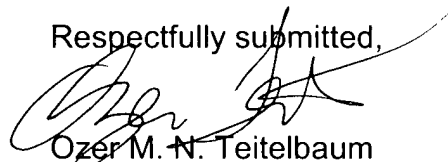
bipolar transistor, as explained hereinabove. The Kasuya reference discloses a dry etching processing method for a benzocyclobutene ("BCB") layer. More particularly, the Kasuya reference appears to teach the use of dry etching a BCB layer by supplying a gaseous mixture of CF_4 and O_2 or SF_6 and O_2 .

Applicants' submit that the Examiner's proposed combination fails to teach or suggest the claimed invention. More particularly, the formation of pad wiring through a hole to access an electrode of the Yamahata reference, when combined with the method for dry etching a BCB layer of Kasuya, neither discloses nor suggests the step of "forming a conductive post overlying the semiconductor region," as recited in independent Claim 16. Consequently, the Yamahata and Costas et al. references, when taken individually or in combination, fail to teach and/or suggest the elements of dependent Claim 20. As noted hereinabove, Applicants are willing to provide an affidavit under 37 C.F.R. § 1.132 if the Examiner believes such an affirmation would advance the prosecution of the pending claims.

IV. Summary and Conclusion

Applicants believe that a full and complete response has been made to Examiner Dang's Office Action. Thus, in view of the hereinabove remarks, Applicants respectfully request reconsideration and allowance of their patent application and its claims. To that end, if the Examiner feels that a conference might expedite the prosecution of this case, he is cordially invited to call the undersigned.

Respectfully submitted,


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